# Nomenclatural notes on *Eugenia reinwardtiana* (Myrtaceae) and more or less associated names

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ABSTRACT. The nomenclatures of *Calyptranthes ramiflora* Blanco, *Caryophyllus cotinifolius* Miller, *Eugenia bukobensis* Engler, *E. codyensis* Munro ex Wight, *E. cotinifolia* Jacq., *E. elliptica* Lam., *E. hypoleuca* Thwaites ex Kosterm., *E. phillyreoides* Trimen, *E. reinwardtiana* DC., *E. roxburghii* DC., *E. salomonica* C.T. White, *Jossinia* Comm. ex DC., *Myrtus caryophyllata* L., *M. cotini folio* Plumier, *M. pimenta* L., and *Pimenta acris* (Sw.) Kostel. (Myrtaceae), and more or less associated names are outlined. Some typifications are made.

***Keywords.*** *Eugenia*, Myrtaceae, *Myrtus*, nomenclature, *Pimenta*, *Syzygium*

## Introduction

The generic delimitation of *Eugenia* L. against *Syzygium* J.Gaertn. (Myrtaceae) is notoriously complicated but gradually, from various disciplines, a clearer concept is evolving. For anatomy see, e.g., Ingle & Dadswell (1953) and Schmid (1972a, b, c), and palynology (Pike 1956). Wilson et al. (2005), based on an analysis with matK, found that they are in quite different clades: *Eugenia* was included in the *Myrteae* (usually in the subtribe *Eugeniinae* O. Berg) and *Syzygium* in the new *Syzygieae*. It must be noted, though, that of *Eugenia* only *E. uniflora* L. was included and for *Syzygium* but 3 species. Similar results based on ITS and *psbA-trnH* were reported by Lucas et al. (2005), where the genera again were in different clades. However, only four *Eugenia* and two *Syzygium* species were included. Wilson restricted *Syzygium* (over 500 spp.) to the Old World, and *Eugenia* (c. 550 spp.) to the New World, Pacific, the Philippines, and Africa (2011: 245, 252). In the Philippines (Wilson 2009) there would be 10 native species and an introduced one. He accepted two species for New Guinea (Snow & Wilson 2010). The specialists apparently disagree, for according to a recent revision by Ashton (A: in litt.) there would be only two Malesian species of "true" *Eugenia*: *E. craveniana* N.Snow & Peter G.Wilson and *E. reinwardtiana* DC. In the Pacific the related *Eugenia salomonica* C.T.White ranges from Mussau Isl. (St. Matthias Group) and Bougainville to the Solomons. All other putative *Eugenia* would belong to *Syzygium*.

An extract from the generic key by Wilson (2011: 227–228) compared to the generic descriptions gives the following key, which clearly is polythetic:

Young shoots and flowers often pubescent. Inflorescences usually axillary, uniflorous, rarely dichasial or raceme-like and many-flowered . Cotyledons fused. — *Eugenia*

Young shoots and flowers usually glabrous. Inflorescences usually terminal (sometimes rami- or cauliflorous), usually paniculate. Cotyledons free. — *Syzygium*

The nomenclatures of these and associated names are sometimes quite complicated and their study led to various side paths. These admittedly rambling notes may be of some interest and aid to myrtophiles.

### *Eugenia reinwardtiana* (Blume) DC.

*Eugenia reinwardtiana* (Blume) DC., Prodr. 3: 267 (1828); Hyland, Austral. J. Bot., Suppl. 9: 28, t. 10 (1983). – *Myrtus reinwardtiana* Blume, Bijdr. 17: 1082 (1826–1827) ("1826"). – *Jossinia reinwardtiana* (Blume) Blume, Mus. Bot. 1: 120 (1850) ("1849"); Merr., Arnold Arbor. 31: 329 (1950). – *Jambosa maritima* Miq., Fl. Ned. Indië 1: 435 (1855), nom. superfl. LECTOTYPE (designated here): *Reinwardt s.n.* (L: *sh. 898.203–352*), Indonesia, Moluccas, Pulo Pombo.

*Eugenia rariflora* Benth. in Hook., London J. Bot. 2: 221 (1843); F. Br., Bull. Bernice P. Bishop Mus. 130: 201 (1935). LECTOTYPE (designated by A.C. Smith 1985: 376): *Barclay s.n.*, Fiji (K).

*Eugenia carissoides* F. Muell., Fragm. 3: 130 (1863). ). LECTOTYPE (designated by Hyland 1983: Austral. J. Bot., Suppl. 9: 28): *Fitzalan s.n.*, Australia, Queensland, Port Denison (MEL *60221*; iso MEL *60216*).

*Eugenia hypospodia* F. Muell., Fragm. 5: 15 (1865). LECTOTYPE (designated by Hyland 1983: 28): *Dallachy s.n.*, Australia, Queensland, Rockingham Bay (MEL *60222*).

*Jossinia tahitensis* Nadeaud, Énum. Pl. Tahiti: 79 (1873). SYNTYPES: Not indicated (P, PC, and perhaps elsewhere, e.g., BISH *1455102*: 22 Oct 1857, Tahiti, Tiari, "vallée de Haaripo et ailleurs").

*Eugenia rariflora* Benth. var. *parvifolia* Hillebr., Fl. Hawaï Isl.: 129 (1888) – *Eugenia waianensis* O.Deg., Fl. Hawaii. Fam. 273, illus. (15 Jul 1932), non *Eugenia parviflora* DC. (1828). TYPE: *Lydgate s.n.*, Hawaii, Oahu, northern slopes of Kaala (holo B, lost).

*Eugenia kangeanensis* Valeton in Boerl., Icon. Bogor. 4: 107, t. 333 (*"kangeensis"*) (1912); Merr. & L.M. Perry, Mem. Acad. Arts & Sci. 18: 140. ≡ Mem. Gray Herb. Harvard Univ. 4: 140 (1939). LECTOTYPE (designated here): *Jaheri 518*, Indonesia, Moluccas, Kai Isl. (BO; *film 62, neg. 1* in L).

*Eugenia costenoblei* Merr., Philipp. J. Sci. 9: 123 (1914) – *Jossinia costenoblei* (Merr.) Diels, Bot. Jahrb. Syst. 56: 531 (1921). TYPE: *Costenoble 1172*, Guam, Hilaan (holo US: *sh. 653736, 653737*).

*Eugenia macrohila* C.T.White & W.D.Francis, Proc. Roy. Soc. Queensland 35: 69 (1923). TYPE: *W.D. Francis, s.n.*, Australia, Queensland, Marmor (holo BRI *212342*; iso BRI *212343, 212344*, MEL *60202*).

*Jossinia desmantha* Diels, J. Arnold. Arbor. 10: 82 (1929). TYPE: *Brass 881*, Papua New Guinea, Central Prov., Port Moresby (holo A).

*Eugenia koolauensis* O.Deg. var. *glabra* O.Deg., Fl. Hawaii. Fam. 273 (10 Aug 1932). TYPE : *Degener & Bush 4194*, Hawai'i, Oahu, 0.5 mile SE of Pohakea Pass (holo BISH).

*Distribution.* Malesia: Java (Kangean Isl.), Lesser Sunda Isl. (Flores), Borneo (Sabah, Sarawak), Celebes? (fide cultivated tree in BO: *Alston 17205, Rastini 61*, both in L), Moluccas (Ceram, Halmahera, Kai Isl., Pulau Pombo, Saparua), New Guinea (Aru Isl.; Central Prov., S and E of Port Moresby; curious that it is not more widespread); Pacific: Austral Isl., Fiji, Gambier Isl., Guam, Hawaii, Henderson Isl., Mariannes, Marquesas Isl., Niue, Palau, Peleliu, Pitcairn, Rapa, Rarotonga, Samoa, Society Isl., Tahiti, Tonga, Truk, Vanuatu, Yap; Australia: coastal zone of Queensland and Torres Strait Isl., N West Australia.

*Habitat.* On or near beaches, monsoon forests, deciduous vine thickets in Australia, 0–500 m alt.; dry forest slopes, occasionally in mesic forest, 180–730 m alt. in Hawaii; on limestone in Guam.

*Vernacular names.* Beach cherry (Austr.), Cedar Bay Cherry (Austr.), Mountain topper (Austr.).

*Uses.* The sweet fruit according to some has a better taste than cherries, "good bush tucker". Used in horticulture for decoration, a minor source of fruit, and for hedges.

*Notes.* Quite extensive discussions of this species are provided by Merrill (1950) and Hyland (1983). Merrill discussed the delimitation of the genus *Jossinia* Comm. ex DC. with an emphasis on *J. reinwardtiana* (Blume) Blume.

According to Hyland, the anatomy and vascularisation of the calyx tube (hypanthium) of *Eugenia reinwardtiana* conforms with that of *Eugenia s.s.* as elucidated by Schmid (1972a, b, c). A molecular analysis of mainly S African taxa by Van der Merwe et al. (2005) placed it in a clade with species with eastern, i.e., Asian, affinities. It was not in the clade with species formerly attributed to *Jossinia* Comm. ex DC.

*Eugenia koolauensis* var. *glabra* differs by being glabrous with the flowers sometimes in two approximates pairs. The type was collected from a dying tree.

An anonymous reviewer of the present paper, perhaps echoing a remark by Diels (1921: 531) suggested inclusion of *Eugenia palumbis* Merr. Hosokawa (1940: 542) and Stone (1970: 446, 448, t. 75, 76) regarded it as distinct. Thus:

*Eugenia palumbis* Merr., Philipp. J. Sci. 9: 122 (1914). – *Jossinia palumbis* (Merr.) Diels, Bot. Jahrb. Syst. 56: 531 (1921). TYPE: *Costenoble 1173*, Guam, Tambun (holo US *653738*).

According to another, referring to Hyland (1983), *E. bryanii* might be a synonym of this, but Hosokawa (1940: 542) without comment, and Stone (1970: 447), tentatively kept it as distinct:

*Eugenia bryanii* Kaneh., Botanical Magazine (Tokyo) 51: 913, f. 68 (1937). – *Jossinia bryanii* (Kaneh.) Hosok., J. Jap. Bot. 16: 542. 1940. TYPE: *Bryan 1229*, Guam, Achugas Point (holo FU).

***Eugenia reinwardtiana* (Blume) DC. forma *lutea* St. John**

*Eugenia reinwardtiana* (Blume) DC. forma *lutea* St. John, Phytologia 37: 441 (1977). TYPE: *St. John 14901*, Polynesia, Gambier Islands, Mangareva, S side of Mt Makoto (holo BISH; iso L).

St. John (1977) and Smith (1985) reported the fruits as being yellow to bright orange to brownish, against red in the typical form. The latter did not mention the palatability and said that there was no reliable local Fijian name. If the fruits are as pleasant as reported elsewhere, this is remarkable and Fijian material should be studied again to see whether it really belongs here. "It certainly does not look much like the common form of *E. reinwardtiana* that occurs in Australia." (Snow in litt.).

***Myrtus cotini folio* Plumier**

Plumier collected in the Caribbean between 1689 and 1697. Polhill & Stearn (1976) made the following observations. Plumier made over 1200 drawings (now in the Bibliothèque Centrale, P), 508 of which were copied for Boerhaave in Leiden, the "Codex boerhaavianus" (now in the Library of the University of Groningen, The Netherlands). After Boerhaave's death these were acquired by Johan Burman in Amsterdam, who noted that Linnaeus together with Adriaan van Royen had assisted Boerhaave in his study of the "Plumerian Codex" in the winter of 1737–1738 when Linnaeus stayed at Van Royen's place. Linnaeus made notes on it in an interleaved copy of the Genera plantarum (now in LINN).

Plumier used the polynomial *Myrtus cotini folio* in 1703, while the plate and descriptions were published by Burman in 1759. These references were not mentioned by Linnaeus (Richter 1840), possibly because he had no idea of the identity. Only as late as 1771 did he accept the *Eugenia cotinifolia* of Jacquin (1768), see below.

Burman's combination was invalidly published as it was a phrase name; therefore Steudel (1841) erred when he attributed *"cotinifolia"* to him. The earliest publication where a binomial was used was that by Aublet (1775), where in the index to Latin names he cited *Myrtus citrifolia* for *Myrtus 4* on p. 513, which is Plumier's *Myrtus cotini folio*. The present identity is therefore with *Myrcia citrifolia* (Aubl.) Urban.

Because all authors have relied on Plumier's plate and their combinations thus are linked together by that, it seems the most logical choice to select it as the lectotype. In some cases specimens are mentioned and the citation of Plumier is given in an

attempt to match the specimen-in-hand with existing literature. Obviously, especially 18th century authors had only a faint idea of the stupendous richness's of tropical floras, and their specimens may well be something quite different from what Plumier depicted. To designate these possibly misidentified specimens (if they still exist, and, if they have been re-identified, can be found) as epitypes would make several combinations heterotypic and legitimate, and may have unforeseen destabilisation of well-accepted names.

Vahl (Jul–Dec 1791) coined *Myrtus coriacea*, citing Swartz (1788), who is often referred to as the validating author. However, the latter had Plumier's taxon as an unnamed variety of his *Myrtus acris* Sw. (see for more under *Pimenta acris*, below) and when he did use *M. coriacea* in 1798, he attributed it to Vahl. In the same period Gmelin (late Sep–Nov 1791) was the first to make the combination *Myrtus cotinifolia*. As both names by lectotypification are later homotypic synonyms of *Myrtus citrifolia* Aubl., it is rather unimportant to argue which had the priority over what. In the list below I have arranged them alphabetically.

Poiret (1798) described a fragmentary specimen obtained by Lamarck from the garden of "citoyen" Cels and thought he could identify that with the plants described and depicted as *Myrtus cotini folio* Plumier (1703) or *Myrtus foliis alternis ovatis* Plumier (1759), and *Caryophyllus aromaticus indiae occidentalis, foliis & fructu rotundis* Plukenet (1696), and doubtfully with *Myrtus caryophyllata* Jacq. and *Myrtus acris* Sw. However, as the Plumier plate is the lectotype of *Myrtus cotinifolia* Gmel., Poiret's use of the identical combination makes it an isonym.

Steudel (1841) mentioned what he thought were three different uses of *Myrtus cotinifolia*: by Burman, Poiret, and Sprengel (1825). Steudel accepted that by Burman, which is an invalid name. Actually, unknown to him, Gmelin (1791) was the first to validly make this combination. The ones by Gmelin and Poiret are wholly or partly based on Plumier's plate, so the combinations by Poiret and Steudel are isonyms of that by Gmelin with no nomenclatural status. Sprengel by citing *Eugenia* Linnaeus (i.e., 1771: 243) referred indirectly to *Eugenia cotinifolia* Jacq. (1768). It is therefore a later homonym of Gmelin's name.

The correct combination seems to be as follows.

*Myrcia citrifolia* (Aubl.) Urb. in Fedde's Repert. 16: 150 (1919). – [*Myrtus cotini folio* Plum., Nov. Pl. Amer., Cat. Pl.: 19 (1703), nom. nud.; Pl. Amer.: 203, t. 208, f. 2 (1759), nom. inval. (edited by J. Burman)]. – *Myrtus citrifolia* Aubl., Hist. Pl. Guiane 1: 513 (1775); Table des noms Latins: 20 (1775). – (*Myrtus acris* Sw. var. *b* Sw., Prodr: 79 (1788), sine comb.). – *Myrtus coriacea* Vahl. Symb. Bot. 2: 59 (Jul–Dec 1791); Sw., Fl. Ind. Occid. 2: 912 (1798), nom. superfl. – *Myrtus cotinifolia* Gmel., Syst. Nat., ed. 13, 2: 792 (late Sep–Nov 1791), nom. superfl.; Poir. in Lam., Encycl. 4: 410 (1798); Burm. ex Steud., Nomencl. Bot. ed. 2, 2: 177 (1841), isonyms. – *Myrcia coriacea* (Vahl) DC., Prodr. 3: 243 (1828), nom. superfl. – *Pimenta citrifolia* (Aubl.) Kostel., Allg. Med.-Pharm. Fl. 4: 1525 (1835). – *Aulomyrcia coriacea* (Vahl) O. Berg, Linnaea 27: 70 (1855), nom. superfl. – *Myrcia coriacea* (Vahl) DC. var. *swartziana* Griseb., Fl. Brit. W. I.: 234 (1860).

– *Aulomyrcia citrifolia* (Aubl.) Amshoff, Bull. Torrey Bot. Club 75: 531 (1948). LECTOTYPE (designated here): *Plumier's plate 208, fig. 2*, India occidentalis, ? Jamaica.

*Eugenia paniculata* Jacq., Coll. 2: 108, t. 5, f. 1 (Apr 1789) ("1788"); DC., Prodr. 3: 280 (1828), sub *E. fragrans* Willd. cum ? – *Aulomyrcia jacquiniana* O. Berg, Linnaea 27: 69 (1855), non *Aulomyrcia paniculata* O. Berg (1855: 49). – *Myrcia coriacea* (Sw.) DC. var. *jacquiniana* (O. Berg) Griseb., Fl. Brit. W. I.: 234 (1860). – *Myrcia paniculata* (Jacq.) Krug & Urb. in Urb., Bot. Jahrb. Syst. 19: 577 (1895) (*"pannicula"*). TYPE: *Aquart in Herb. Jacquin, s.n.*, Martinique (holo W).

### *Caryophyllus cotinifolius* Miller

Miller (16 Apr 1768) was the first to validate *Caryophyllus cotinifolius*, which in previous editions of the Dictionary he had called *Caryophyllus foliis ovatis obtusis oppositis, floribus sparsis alatibus* and noted that this would be the same as "*Myrtus cotini folio.* Plum. Cat. 19" of 1703.

His material had been collected between 1734–1740 by the surgeon Robert Millar in Cartagena of New Spain (now Colombia). There is no evidence that either Millar or Miller sent a duplicate to Linnaeus or anybody else. The name is not mentioned by Sweet (1826) which suggests that the species was not in cultivation in England anymore.

From Miller's description and remarks it is obvious that that he was describing living plants which he probably had grown in his garden in Chelsea, and tried to identify these with existing literature, e.g., Plumier's plate.

Remarkably, Scott (1980: 475) while stating that he had seen the holotype of *Eugenia cotinifolia* Jacq. in BM, noted that "it was collected or communicated by D. Miller in 1763". This is against the fact that Jacquin did not mention any collector, but said that he had seen the specimen in Gronovius's herbarium with unknown provenance! I think that there has been a mix-up with Philip Miller's *Caryophyllus cotinifolius*. Note that "D." is not an initial, but stands for "Dominus". Mr. Govaerts et al. (2008: 62) have equated this with *Eugenia cotinifolia* Jacq., see below.

*Caryophyllus cotinifolius* Miller, The Gardeners Dictionary, ed. 8: *Caryophyllus 4* (16 Apr 1768). TYPE: *Millar s.n. A° 1736*, possibly cultivated in Chelsea from seed from Colombia, Cartagena (holo BM).

### *Eugenia cotinifolia* Jacq.

Independently, Jacquin (1768, precise date unknown, presumably later than Miller) described and depicted (fruits only) an *Eugenia cotinifolia* based on a specimen he had seen (or received?) from Gronovius without an indication of its origin. He compared it with *E. carthagenensis* Jacq. and *E. uniflora*, which he noted to have seen in Martinique, where the natives called it "Cerisier de Cayenne", or Cayenne

cherry. This was evidently misread by Linnaeus (1771) who gave as the provenance of Jacquin's species "Cayenne" (French Guyana), the start of a lengthy confusion and misapplication of its name. Sprengel (1825) for some reason added the Mascarenes to its distribution.

Johan Frederik (Jan Fredrik) Gronovius (1686–1762) was the patron, host, and friend of Linnaeus during his stay in Leiden, Rapenburg 52, with the Hortus botanicus on the other side of the canal and his printers on the corner at no. 56, now the well-know pub Barrera. Linnaeus surely saw his herbarium, obtained material from it, and also (falsely) attributed the name *Linnaea* to him. There is an unwritten (?) convention that you cannot name taxa after yourself (or your ancestors).

In Linnaeus's herbarium is a specimen (*637.17*; as usual without provenance) misidentified (Merrill 1950: 332) as *Myrtus pimenta* L. with a pencilled note by J.E. Smith referring to the Jacquin specimen in the Banks herbarium, BM. However, Savage (1945) reported the presence of a list of specimens sent by Jacquin to Linnaeus in the Linnaean Correspondence and this one was not in it. In short, its provenance is unknown, and that it may have come from Gronovius, Jacquin, or even Miller is pure speculation. I therefore think that McVaugh (1968) erred when he suspected that all three references were based on the same source. However, he had found no match for it among the taxa that he knew from the West Indies or northern South America.

Jacquin's herbarium was bought by Banks and is presently in BM. However, his West Indian collections are rare and fragmentary (Dandy 1979). McVaugh (1968) couldn't find anything, but Scott (1980: 475) did. He noted that it was not identifiable anymore, as flowers (Jacquin didn't have any) and fruits have been lost. In any case, it was not like any species from the Mascarenes, Africa, Madagascar, Malesia, or Australia that he had seen.

De Candolle (1828) made the combination *Jossinia cotinifolia* and (mis)applied it to material that had come from the mountains of Bourbon (now Réunion) in the Mascareignes. He cited Sprengel with a question mark, adding "excl. patr.", which I read as "excluding provenance (*patria*)", apparently referring to Cayenne. Because of the influence of the Prodromus this was perpetuated by later authors for various species there (e.g. Baker 1877, with 5 varieties!) and its distribution was gradually extended to Sri Lanka, S India, and Polynesia. This is the interpretation of the epithet that Hyland was referring to.

Actually, Blume (1850: 123) had already seen the error, but as he retained *J. cotinifolia* DC. for the Mascareignes, excluding the references to Jacquin and Sprengel, he actually created a new species with a later homonym, *Jossinia cotinifolia* DC. ex Blume, non Jacq., typified by *Commerson 516* (holo L; iso K, P). This is a synonym of *E. orbiculata* Lam. (Scott 1980: 480).

Urban (1920) restricted Miller's name to Plumier's Caribbean element, which he identified with *Myrcia citrifolia* (Aubl.) Urban. This splitting-up is obviously erroneous, as Miller described material from Colombia, and only attempted to match it with existing literature. Moreover, in lectotypification material has priority over illustrations.

It therefore cannot be ruled out that Miller's and Jacquin's species, only known from a few 18th century collections, is now extinct. For some reason, Govaerts et al. (2008: 139) give Venezuela as the distribution.

*Eugenia cotinifolia* Jacq., Obs. Bot. 3: 3, t. 53 (1768); L., Mant. Alt.: 243 (1771) ("Cayenne"). –*Myrtus cotinifolia* (Jacq.) Spreng., Syst. Veg. 2: 481 (1825) ("Cayenn. Mascaren."), non Poir. (1798). – *Jossinia cotinifolia* (Jacq.) DC., Syst. Veg. 3: 238 (1828). TYPE: *Herb. Jacquin s.n. ex herb. Gronovius*, provenance unknown (holo BM; ? LINN).

***Jossinia* Comm. ex DC.**

The ING at the moment of writing (in a version of 9 Feb 1996) stated that a type had not been designated. However, Scott (1980) chose *Jossinia tinifolia* (Lam.) DC. before Ashton (1981: 408) selected *Jossinia cotinifolia* (Jacq.) DC.

*Jossinia* Comm. ex DC., Prodr. 3: 237 ("337") (1828). LECTOTYPE: *Jossinia tinifolia* (Lam.) DC.

**Other names**

The following names are not in an alphabetical order as one is linked to the other.

***Eugenia elliptica* Lam.**

This was described from Mauritius and reduced to one of the 5 varieties of *Eugenia cotinifolia* by Baker (1877). Ashton (1981) regarded it as a synonym of the "typical subspecies", and added two more for Sri Lanka: *Eugenia cotinifolia* Jacq. subsp. *codyensis* (Munro ex Wight) P.S.Ashton from Sri Lanka and the Western Ghats, India, and subsp. *phillyreoides* (Trimen) P.S.Ashton, a Sri Lanka endemic only known from the type. Kostermans (1981: 164) disagreed with this and for what had been called *Eugenia cotinifolia* and *Eugenia elliptica* in Sri Lanka he proposed the new species *Eugenia hypoleuca*.

Blume (1850) made the new name *Jossinia lamarckii* for *Eugenia elliptica* Lam. and *Myrtus elliptica* Spreng., because he considered *E. elliptica* Lam. and *M. elliptica* Spreng as different from *J. elliptica* DC, but the latter was based on that of Lamarck and *Jossinia lamarckii* Blume is therefore a superfluous name. Scott (1990: 12) has all "*ellipticae*" under *E. elliptica*, and (p. 16) *Jossinia lamarckii* erroneously under *E. lucida* Lam., as if it was an independent species with *Commerson 512* (L, "holo") as the type.

*Eugenia elliptica* Lam., Encycl. Méth. 3: 206 (1789). – *Myrtus elliptica* (Lam.) Spreng., Syst. Veg. 2: 483 (1825). – *Jossinia elliptica* (Lam.) DC., Prodr. 3: 237 (1828).

– *Jossinia lamarckii* Blume, Mus. Bot. 1: 121 (1850) ("1849"), nom. superfl. – *Eugenia cotinifolia* Jacq. var. *elliptica* (Lam.) Lam. ex Baker, Fl. Mauritius: 114 (1877). TYPE: *Commerson s.n.*, Mauritius (holo P-LA; iso P, P-JU *13923*).

Govaerts et al. (2008: 142) added to this:

*Jossinia cordifolia* Bojer, Hort. Maurit: 141 (1837), nom. nud. – *Eugenia cotinifolia* Jacq. var. *cordifolia* Bojer ex Baker, Fl. Maurit. Seych.: 114 (1877). TYPE: *Bojer s.n.*, Mauritius (K).

### *Eugenia hypoleuca* Thwaites ex Kosterm.

This name needed to be included here, as Kostermans (1981: 164) compared it to *Eugenia codyensis* Munro ex Wight and *E phillyreoides* Trimen.

*Eugenia hypoleuca* Thwaites ex Beddome, For. Man.: 112 (1872), nom. nud.; Kosterm., Quart. J. Taiwan Mus. 34 (3–4): 164 (1981). TYPE: *Kostermans 28088* (holo L, iso PDA).

### *Eugenia codyensis* Munro ex Wight

*Eugenia codyensis* Munro ex Wight, Ill. Ind. Bot. 2: 13 (1841) – *Eugenia cotinifolia* Jacq. subsp. *codyensis* (Munro ex Wight) P.S.Ashton in Dassan., Rev. Handb. Fl. Ceylon 2: 412 (1981). – *Syzygium codyense* (Munro ex Wight) Chandrab., Biol. Mem. 2: 57 (1977). TYPE: *Wight s.n.*, India, Karnataka, Coorg (Kodagu) near Mercara (Madikeri) (12° 25' N. 75° 45' E) (holo K).

*Notes.* Named after the village Kody or Cody near Vittal close to Sampage Ghat. This locality is also mentioned for *Ophiorrhiza codyensis* Gamble (1919).

Kostermans (1981: 165) said that from the description this is a species distinct from *E. hypoleuca*, but Govaerts et al. (2008: 185) equated the two.

### *Eugenia phillyreoides* Trimen

*Eugenia phillyreoides* Trimen, J. Bot. 23: 207 (Jul 1885); Syst. Cat. Ceylon: 33 (Jun / Jul 1885) (nom. nud., "*phillyraeoides*"); Handb. Fl. Ceylon 2: 183 (1894); Kosterm., Quart. J. Taiwan Mus. 34(3–4): 164 (Dec 1981). – *Syzygium phillyreoides* (Trimen) Santapau, Kew Bull. (3): 276 (1948). – *Eugenia cotinifolia* Jacq. subsp. *phillyreoides* (Trimen) P.S.Ashton in Dassan., Rev. Handb. Fl. Ceylon 2: 413 (1981) ("*phyllyraeoides*"). TYPE: *Anon. s.n., May 1884*, Sri Lanka, summit of Kalupahane Kande (holo K; iso L, PDA).

*Eugenia mooniana* Wight, Ill. Ind. Bot. 2: 13 (1841); Icon. Pl. Ind. Orient. 2: 4, t. 551 (1840–1843), non Gardn. (1841). SYNTYPES: *Moon s.n.*, Sri Lanka (? BM), *Wight s.n.*, India, Courtallum (?K).

*Notes.* Kostermans (1981: 165) said that this is a species entirely different from *E. hypoleuca*, and more similar to *E. mandugodaense* Kosterm. and *E. willdenowii* DC.

There have been some alternative orthographies of the epithet. The original one is "*phillyreoides*", but "*phillyraeoides*" and "*phyllyraeoides*" in later publications. As it is derived from *Phillyrea* L. (Oleaceae) the correct orthography seems to be "*phillyreoides*" [Rec. 60G.1(1) and (2)].

### *Eugenia bukobensis* Engler

The combination *Eugenia bukobensis* Engler (1899) is for a species widespread in Kenya, Tanzania, and Uganda. Engler had previously (1895) misidentified it with *Eugenia cotinifolia* Jacq. var. *elliptica* (Lam.) Lam. ex Baker. That it was a misidentification is not immediately clear, but can be deduced from the facts that Engler called it a "n. sp." (new species) and cited Baker's combination name as "ex Engl.", which we now would write as "sensu Engl.", or "auct. non Baker: Engl.".

However, Fosberg (1978) and Verdcourt (1999, 2001) regarded the citation as a reason to declare the name superfluous and it was proposed for conservation (Verdcourt et al. 2002). This proposal was rejected as unnecessary for the reasons given above (Brummitt 2004).

*Eugenia bukobensis* Engler, Notizbl. Bot. Gard. Berlin 2: 289 (1899). – Syntypes: *Stuhlmann 3261, 3749, 3756, 3794, 3881,* "Centralafrikanisches Seengebiet", now Tanzania, Bukoba (B, lost). NEOTYPE (designated by Verdcourt et al. 2002): *Gillman 260* (K).

*Eugenia cotinifolia Jacq.* var. *elliptica* auct. non (Lam.) Baker: Engl., Pflanzenw. Ost-Afrikas C: 287 (1895).

### *Myrtus pimenta* L.

This is a totally different subject, brought about by *Myrtus cytrifolia* Poir. (1798), non *M. citrifolia* Aubl. (1775) and the confusion created by the application of *Myrtus cotinifolia* Plum. by Landrum (1986: 106–107).

Linnaeus (1737: 501) mentioned *Myrtus calycibus absque appendiculis* based on *Myrtus arborea aromatica, foliis laurinis* Sloan., flor. 161 [i.e. Cat. Pl. Jamaica, 1696]. hist. 2. p. 76, t. 191. f. 1 [i.e., Voy. Jamaica, 1725], and *Caryophyllus aromaticus americanus, lauri acuminatis foliis, fructu orbiculari.* Pluk. alm. 88, t. 155. f. 4 [1692], both from Jamaica. He noted that the generic position needed further scrutiny by those who could study living plants. In his Flora zeylanica (1748) for some reason he mentioned this species again (as *Myrtus foliis alternis*, but did not actually say that it occurred in Ceylon = Sri Lanka), while in the Materia medica (1749 sub no. 225) he cited the Fl. Zeyl. with a question mark. The remark "Zeylon?, Cuba, Guiana" cited by Landrum (1986: 106) is made under the next species, *Myrtus foliis obverse ovatis Fl. Zeyl. 183?*, which is *Pimenta racemosa*. This made later authors believe that he described the species from Sri Lanka (e.g. Landrum 1986: 106). The confusion was

increased when in 1753 for *Myrtus pimenta* he stated "Habitat in India" and gave references to both the Flora zeylanica and the Jamaica ones. This is another example that he was not always too clear in his distinction between the East and West Indies. Thus Poiret (1798) was misled to think that there were American and Ceylonese species involved and he apparently thought that the East Indian one was the major part and so proposed *Myrtus cytrifolia* for the American one. This is an orthographic variant of *M. citrifolia* Aubl. (1775) and also is a superfluous name for *Myrtus pimenta*.

It is interesting to note that Heyne (1950: 1181, sub *Pimenta officinalis* Lindl.) remarked that cultivation outside Jamaica has always been unsuccessful, and the plants only exceptionally flowered. It was introduced in Sri Lanka in 1824.

According to Landrum (1986, with an extensive synonymy) the correct name is *Pimenta dioica* (L.) Merr., and he appointed as the lectotype Sloane. History of Jamaica 2: t. 191, f. 1. 1725. There is no mention of the possible presence of a specimen in the Sloane Herbarium (BM) that may have served as the basis of the plate ("typotype") and would be a good candidate for an epitype.

***Myrtus caryophyllata* L.**

The German physician, Paul Hermann, prepared a number of herbaria in book form during his stay in Ceylon (Sri Lanka) between 1672 and 1677. One of these, now in the Institute de France, Paris, was used by Burman (1737). Lourteig (1966) gave an enumeration of the contents of its single volume. The largest and most important copy, consisting of 5 volumes, is that now in BM which was seen by Linnaeus (1748). A third copy in two volumes is in L which, contrary to Van Ooststroom (1937), was not seen by Linnaeus. It therefore contains no direct Linnaean elements although many specimens may be syntypes under Art. 9 Note 2(c). A fourth 1-volume copy is in the Forschungsbibliothek, Gotha, Germany, extensively discussed by Rauschert (1970).

Linnaeus (1748) described *Myrtus foliis obverse ovatis* with a fairly detailed description and the following references:

> Cerasus humilis umbellata, flosculis incarnatis, fructu Montinghos dicto. Burm. zeyl. 57.
>
> Caryophyllus aromaticus indiae occidentalis, foliis & fructu rotundis, dipyrene, seminus fere orbiculatis planis. Pluk. alm. 88, t. 15.f.3 (an?)
>
> Danighas Herm. zeyl. 3.
>
> Dam. Herm. zeyl. 14, 53.

Rightly, he was not sure about the Plukenet reference, as this refers to a West (!) Indian collection, which, as we now know, possibly represents *Pimenta racemosa* (Mill.) J.W.Moore (Landrum 1986: 106), but Linnaeus's ideas about India were rather hazy (as noted above, his "India" can refer to both the West and East Indies!) and so he confused himself and later authors.

For his descriptions he used the BM Hermann herbarium in which there are six fragments. All have been regarded as original elements by Jarvis (2007) and the lectotypification is attributed to Kostermans (1981: 133). However, the latter merely stated "Herb. Hermann (BM)". BM 000621251 on vol. 1, fol. 7 is designated here as

the lectotype. BM 000621253 would be an isolectotype. The other parts in the other volumes were most likely collected at a later moment, and so are syntypes. The L Hermann collection (Van Ooststroom, 1937: fol. 22), although not seen by Linnaeus, I would call a syntype [Art. 9, Note 2(c)]. Lourteig (1966) did not mention any specimen in the Paris copy, and Rauschert (1970) none in that at Gotha.

In 1749, Linnaeus apparently had changed his mind and accepted the reference to Plukenet and the origin as Cuba and Guiana (!), while the reference to the Flora zeylanica and Zeylona were given a question mark. In 1753 he reversed again, now giving the references to the Flora zeylanica and Plukenet equal status, but with "Zeylona" as the only provenance. His reference to the Materia medica should read "226", not "225", which latter number is correctly cited under the next species, *Myrtus pimenta*.

Obviously, the Plukenet citation should be discarded as being an attempt to identify material-in-hand with existing literature. This was also realised by Swartz (1788, 1798), see below under *Pimenta acris* (Sw.) Kostel.

Although Trimen identified the Hermann specimens, he (1894: 174) probably because of the Kew Rule (first epithet used under a particular generic name) called the Sri Lanka species *Eugenia corymbosa* Lam. (1789) with *Myrtus caryophyllata* L. (1753) and *Syzygium caryophyllaeum* Gaertn. (1788) in synonymy.

*Eugenia corymbosa* Lam. (1789: 199) is based on *Njara* Rheede, Hort Malab. 5: 53, t. 27 (1685) and a Sonnerat collection from India. The latter would seem the obvious type. Ashton (1981: 451) cited it as *Syzygium corymbosum* (Lam.) DC, which is an error for "(Blume) DC.", based on *Calyptranthus corymbosus* Blume (1824: 291) from Java. De Candolle (1828: 261) transferred the latter to *Syzygium corymbosa* (Blume) DC. while he retained (1828: 284) *Eugenia corymbosa* Lam. in *Eugenia*.

The occurrence of this species in Borneo as is mentioned in the older literature is erroneous, and probably refers to *Syzygium lineatum* (DC.) Merr. & L.M.Perry (1939: 172).

The correct name is *Syzygium caryophyllatum* (L.) Alston in Trimen, Hand-Book Fl. Ceylon 6, Suppl.: 116 (1931).

***Myrtus caryophyllus* Spreng.**

*Myrtus caryophyllus* Spreng., Syst. Veg. 2: 485 ("483") (1825) is a superfluous name for *Caryophyllus aromaticus* L. from the Moluccas. He also cited *Eugenia caryophyllata* Thunb., Willdenow.

***Syzygium caryophyllaeum* Gaertn.**

*Syzygium caryophyllaeum* Gaertn. is the conserved type of *Syzygium* Gaertn. designated by McVaugh (1956). It was described on material then in L from Ceylon (De Candolle 1828: 260, said "herb. Van-Royen"). This appears to have been lost. – *Eugenia caryophyllaeum* (Gaertn.) Wight, Ill. Ind. Bot. 2: 15 (1841); Icon. Pl. Ind.

Orient. 2: 3, t. "540 | 1017" (1840–1843). EPITYPE (designated here): *Kostermans 24707* (L! iso K! PDA, US).

### *Pimenta acris* (Sw.) Kostel.

*Pimenta acris* (Sw.) Kostel. was indirectly based on *Myrtus acris* Sw. (1788: 79; 1798: 909), which is generally considered as a superfluous name for *Myrtus caryophyllata* L. This is incorrect, for Swartz referred to *Caryophyllus aromaticus indiae occidentalis, foliis et fructu rotundis, dipyrene, seminibus fere orbiculatis planis* Pluk. (Alm. 188, t. 155, f. 3. 1692) and *Myrtus caryophyllata* sensu Jacq. (1767) from the Caribbean, which he regarded as different from Linnaeus's East Indian *M. caryophyllata* L. as he explained more fully in 1798 (p. 910). In this he was followed by Kosteletzky (1835). This idea, however, was caused by the false impression that Linnaeus (1753) made when he gave the provenance of his *Myrtus caryophyllata* as "Zeylona", while including also a South American reference. The Plukenet reference may represent *Pimenta racemosa* (Mill.) J.W. Moore (Landrum 1986: 106).

The name therefore originally was legitimate, but in 1798 Swartz also cited *Caryophyllus racemosus* "Mill. Dict.", which refers to the Gard. Dict. Ed. 8, *Caryophyllus* no. 5. 1768, which epithet under the present rules he should have adopted, and it becomes a synonym. According to Landrum (1986: 108) this is now *Pimenta racemosa* (Mill.) J.W. Moore var. *racemosa*.

*Pimenta acris* (Sw.) Kostel. var. *citrifolia* Kostel. was mentioned by Ashton (1981: 403) as introduced in Sri Lanka. I have not found this combination made anywhere, and it is not in Govaerts et al. (2008: 342).

### *Eugenia roxburghii* DC.

*Eugenia roxburghii* DC., Prodr. 3: 271, # 74 (1828). – *Eugenia zeylanica* auct. non Willd.: Roxb., Hort. Beng.: 92 (1814) ("*zeylonica*"), nom. nud.; Fl. Ind. 2: 490 (1832); Ashton in Dassan., Rev. Handb. Fl. Ceylon 2: 416 (1981) ("*ceylanica*"). – *Eugenia bracteata* (Willd.) Raeusch. ex DC. var. *roxburghii* (DC.) Duthie in Hook.f., Fl. Brit. India 2: 502 (1879). TYPE: *Roxburgh in Herb. Lambert in Herb. DC.* (holo G; microfiche IDC), see also *Wallich 3621-A* (K; IDC microfiche 7394) and *Roxburgh s.n., Icon Ined. 2502* (CAL, K), Bangladesh, Sylhet.

*Myrtus bracteata* Willd., Sp. Pl., ed. 4, 2, 2: 969 (1799). – *Eugenia ? bracteata* (Willd.) Roxb., Hort. Beng.: 37 (1814), nom. inval.; Raeusch. ex DC., Prodr. 3: 264. 1828; Roxb., Fl. Ind., ed. 2, 2: 490 (1832), isonym. non Rich. (1792). – *Syzygium bracteatum* (Willd.) Raeusch ("Roxb.") ex Korth., Ned. Kruidk. Arch. 1: 205 (1846); Raizada, Indian For. 74: 336 (1948) (n.v.), isonym. TYPE: *Klein A° 1796 in Herb. Willdenow 9553* (holo B; microfiche IDC 7440), "India orientali", probably Tamil Nadu, Tranquebar (= Tharangambadi).

*Myrtus ruscifolia* Willd., Sp. Pl., ed. 4, 2, 2: 970 (1799), non *Eugenia ruscifolia* Poir. (1813). – *Syzygium ruscifolium* (Willd.) Santapau & Wagh, Bull. Bot. Surv. India 5:

109 (1964), nom. superfl. [Duthie in Hook.f., 1879: 502, already had synonymised *M. ruscifolia* with *M. bracteata*, therefore, under Art. 11.5 Santapau & Wagh should have adopted *S. bracteatum* (Willd.) Raeusch ex Korth.]. LECTOTYPE (designated here): *Roxburgh in Herb. Willd. 9557*, India orientali, probably Tamil Nadu, Tranquebar (= Tharangambadi) (B; IDC microfiche 7440: third sheet on right in microfiche; the other two are from Rottler through Klein, collected Sep 11, Oct 3, 1799, so too late to have been with Willdenow in Dec 1799).

*Myrtus latifolia* B. Heyne ex Roth, Nov. Pl. Sp.: 232 (1821); Panigrahi, J. Econ. Taxon. Bot. 5: 993 (1984), non *Eugenia latifolia* Aubl. (1775). – *Myrtus heynei* Spreng., Syst. Veg. 2: 482 (1825), nom. superfl. – *Eugenia heynei* Rathakr. & N.C. Nair, J. Econ. Taxon. Bot. 5: 232 (1984), nom. superfl. [*Eugenia bracteata* (Willd.) Roxb. cited]. – *Eugenia rothii* Panigrahi, J. Econ. Taxon. Bot. 5: 994 (1984), nom. superfl. (*Eugenia bracteata* cited). TYPE: *Heyne in Herb. Roth*, India, probably Tamil Nadu, Tranquebar (= Tharangambadi) (holo B, probably lost).

*Eugenia fasciculata* Wall. ex Blume, Mus. Bot. 1: 87 (1850) ("1849"). – *Eugenia bracteata* (Willd.) Raeusch. ex DC. ("Roxb.") var. *fasciculata* (Wall. ex Blume) Duthie in Hook.f., Fl. Brit. India 2: 502 (1879). – *Eugenia rothii* Panigrahi var. *fasciculata* (Willd. ex Blume) H.B. Naithani, Fl. Pl. India, Nepal & Bhutan: 165 (1990). LECTOTYPE (designated here): *Wallich 3622*, India, Mont. Pundora (?), 1824 (L: *sh. no. 898.203–55*; iso L, *sh. no. 898.203–54*; K: IDC microfiche 7396).

*Myrtus quadripartita* Royen ex Blume, Mus. Bot. 1: 87 (1850) ("1849"; nom. nud., in synon. sub *E. bracteata*) – Vouchers: *Kotella* (Herb. A. van Royen s.n., Sri Lanka, L *sh. no. 898.203– 50, – 52,–53*).

*Eugenia macrosepala* Duthie in Hook.f., Fl. Brit. India 2: 501 (1879). TYPE: *Stocks s.n.*, India, N. Canara (holo K).

*Distribution.* Bangladesh (Sylhet), India (Meghalaya, S India, Madras, Namailay Mts), Sri Lanka, Myanmar (Irrawaddy, Tenasserim), Thailand (Northern: Phitsanulok, Uttaradit; Northeast: Sakon Nakhon; East: Chaiyaphum; Southeast: Chanthaburi), S Vietnam (Nhatrang; Thuduc; Poulo Condor, now Conson).

*Notes.* Govaerts et al. (2008: 163) regarded this as a "true" *Eugenia*.

The specimens cited under *Syzygium bracteatum* (Willd.) Raeusch ("Roxb.) ex Korth., Ned. Kruidk. Arc. 1: 205. 1846, belong to *Syzygium zeylanicum* (L.) DC. (Mr. Wuu Kuang Soh, or. comm.).

### *Calyptranthes ramiflora* Blanco

Govaerts et al. (2008: 416) included as a synonym *Syzygium latifolium* Blanco (1845) and regarded it as a nom. illeg. (non DC.). Actually it is a misidentification by Blanco of what he had described earlier (1837) as *Calyptranthes ramiflora*.

*Calyptranthes ramiflora* Blanco, Fl. Filip.: 420 (1837). – *Syzygium latifolium* auct. non DC.: Blanco, Fl. Filip., ed. 2: 294 (1845). NEOTYPE (designated here):

*Merrill Sp. Blancoan. 669 (Ramos)*. Philippines. Luzon, Bulacan Prov., Sapang Santel. December 18, 1914 [holo US, 00904347. Barcode No.: 00689164; iso A, B, BM, BO, CAL, F, GH, K, L, MO, NSW, NY, P, U (in L), UC, W]. See http://botany.si.edu/colls/blanco/blancoimages/Blanco_640/00689164.jpg

= *Eugenia similis* Merr. ≡ *Syzygium simile* (Merr.) Merr. (Robinson 1909: 386, 403; followed by Merrill 1918).

***Eugenia salomonica* C.T.White**

*Eugenia salomonica* C.T. White, J. Arnold Arbor. 32: 141 (1951). TYPE: *Kajewski 1574*, Solomon Isl., Bougainville, Kieta, March 1930 (holo A).

*Distribution*. Papua New Guinea (St. Matthias Group: Mussau Isl.; Bougainville). Vanuatu (former Solomon Isl.: Santa Cruz Isl.: Tömotu Noi (Nendö); Santa Isabel).

ACKNOWLEDGEMENTS. Mr. L.A. Craven (CANB), Dr. N. Snow (BISH), Dr. P.G. Wilson (NSW), Mr. P. Widodo (Institut Pertanian Bogor), and two unknown reviewers are much thanked for various comments. Craven provided localities of *Eugenia reinwardtiana* in PNG. Dr. H.-J. Esser kindly checked the holdings in M for some specimens.

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